Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Please cancel Claims 1-25 and add new Claims 26-47, as shown in the listing of claims below:

1.-25. (Cancelled)

26. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance selected from the group consisting of galactose and GalßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR"-R"',

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R"' is a N-glycosidically bound lower alkoxy, a ß-linked thioethyl, or a thiophenyl,

(c) in the presence of *Bullera singularis* or disintegrated cells from *Bullera singularis* or an E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

27. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance selected from the group consisting of galactose and GalßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR"-R"',

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R"' is an O-, C-, - or S-glycosidically bound lower alkoxy, a ß-linked thioethyl, or a thiophenyl,

(c) in the presence of disintegrated yeast cells from *Bullera singularis* ; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

28. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance selected from the group consisting of galactose and GalßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR"-R"',

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R"' is a glycosidically bound fluoro or is a N-glycosidically bound aliphatic or aromatic compound, with the proviso that if NR" is NHAc then R"' is not OH and if NR" is not NHAc then R"' may be OH,

(c) in the presence of *Bullera singularis* or disintegrated cells from *Bullera singularis* or an E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

29. (New) The method according to claim 28, wherein R and R' are a group containing an aliphatic and/or aromatic group.

30. (New) The method according to claim 29, wherein said aliphatic group is a alkyl, alkoxy, or allyloxy and wherein said aromatic group is phenyl, benzyl or phenyloxy.

31. (New) The method according to claim 30, wherein said alkyl is methyl, ethyl or propyl and said alkoxy is methoxy or ethoxy.

32. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance selected from the group consisting of galactose and GalßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR"-R"',

wherein NR" is N-phthalimido, NH-C(O) –R, NHR or NRR' where R and R' are a group containing an organic and/or inorganic group,

wherein R"' is a glysocidically bound fluoro or is an O-, C-, – or S-glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR" is NHAc then R"' is not OH and if NR" is not NHAc then R"' may be OH,

(c) in the presence of disintegrated yeast cells from *Bullera singularis*; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

33. (New) The method according to claim 32, wherein R and R' are a group containing an aliphatic and/or aromatic group.

34. (New) The method according to claim 33, wherein said aliphatic group is a alkyl, alkoxy, or allyloxy and wherein said aromatic group is phenyl, benzyl or phenyloxy.

35. (New) The method according to claim 34, wherein said alkyl is methyl, ethyl or propyl and said alkoxy is methoxy or ethoxy.

36. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance which is GlcßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR"-R"',

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R"' is an O-, C-, N-, – or S-glycosidically bound lower alkoxy, a ß-linked thioethyl, or a thiophenyl,

(c) in the presence of *Bullera singularis* or disintegrated yeast cells from *Bullera singularis* or an E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

37. (New) A method of producing a lactosamine containing compound with ß1-4 linkage selected from the group consisting of Galß1-4GlcNPhtß-Set, Galß1-4GlcNPhtß-Ome, Galß1-4GlcNPht, Galß1-4GlcN$_3$ß-Ome, and Galß1-4GlcNAcß-OphNO$_2$-p, the method comprising:

(1) reacting

(a) at least one donor substance selected from the group consisting of galactose and GalßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR”-R’”,

wherein NR” is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R’” is a N-glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR” is NHAc then R’” is not OH and if NR” is not NHAc then R’” may be OH,

(c) in the presence of *Bullera singularis* or disintegrating yeast cells from *Bullera singularis* or an E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

38. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance selected from the group consisting of galactose and GalßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR”-R’”, wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R'" is a N-glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR" is NHAc then R'" is not OH and if NR" is not NHAc then R'" may be OH,

(c) in the presence of *Bullera singularis* or disintegrated cells from *Bullera singularis* or an E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage; and

(3) adding a second enzyme, selected from an isomerase and an oxidase, which specifically removes glucose.

39. (New) The method according to claim 38, wherein said isomerase is glucose isomerase.

40. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance comprising lactose, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR"-R'",

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R'" is a N-glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR" is NHAc then R'" is not OH and if NR" is not NHAc then R'" may be OH,

(c) in the presence of *Bullera singularis* or disintegrated cells from *Bullera singularis* or an E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

41. (New) A method for the production of Lewis-x compounds, said method comprising:

(1) reacting

(a) at least one donor substance comprising lactose, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR”-R”’,

wherein NR” is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R”’ is a N-glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR” is NHAc then R”’ is not OH and if NR” is not NHAc then R”’ may be OH,

(c) in the presence of *Bullera singularis* or disintegrated cells from *Bullera singularis* or an E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage to form a peracetlyated compound;

reacting said peracetlyated compound with a fucopyranosyl compound; and

subsequently removing the R groups and acetylating the NH_2 group.

42. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance comprising lactose, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GlcNR"-R'",

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R'" is a N-glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR" is NHAc then R'" is not OH and if NR" is not NHAc then R'" may be OH,

(c) in the presence of an E.C. group 3.2 glycosidase obtained from a yeast, to form said lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

43. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance comprising lactose, and

(b) at least one acceptor substance which is a glucopyranosamino compound

having the formula GlcNR"-R'",

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R'" is a N-glysocidicaly bound aliphatic or aromatic compound,

with the proviso that if NR" is NHAc then R'" is not OH and if NR " is not NHAc then R'" may be OH,

(c) in the presence of a recombinant ß-galactosidase with the amino acid sequence of an E.C. group 3.2 glycosidase obtained from a yeast, to form said lactosamine containing compound with ß1-4 linkage.

44. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance selected from the group consisting of galactose and GalßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GLcNR" –R"',

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R"' is a N-glycosidically bound lower alkoxy,

(c) in the presence of a crude, partially isolated or isolated form of E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

45. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance selected from the group consisting of galactose and GalßOR, where R is an organic group, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GLcNR" –R"', wherein NR" is N-phthalimido, NH-C(O) –R, NHR or NRR' where R and R' are a group containing an organic and/or inorganic group,

wherein R"' is a N-glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR" is NHAc then R" ' is not OH and if NR" is not NHAc then R"' may be OH,

(c) in the presence of a crude, partially isolated or isolated form of E.C. group 3.2 glycosidase producing the desired lactosamine containing compound with ß1-4 linkage; and

(2) optionally isolating said lactosamine containing compound with ß1-4 linkage.

46. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance lactose, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GLcNR" –R"',

wherein NR" is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R"' is a N-glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR" is NHAc then R" ' is not OH and if NR" is not NHAc then R"' may be OH,

(c) in the presence of an E.C. group 3.2 glycosidase obtained from a yeast, in crude, partially isolated or isolated form, to form said lactosamine containing compound with ß1-4 linkage.

47. (New) A method of producing a lactosamine containing compound with ß1-4 linkage, said method comprising:

(1) reacting

(a) at least one donor substance lactose, and

(b) at least one acceptor substance which is a glucopyranosamino compound having the formula GLcNR” -R’”,

wherein NR” is an azido, 2-N-acetyl-, 2-N-phthalimido, or another compound containing an inorganic and/or organic group bound to the 2-N-group of glucosamine,

wherein R’” is a glycosidically bound aliphatic or aromatic compound,

with the proviso that if NR” is NHAc then R” ’ is not OH and if NR” is not NHAc then R’” may be OH,

(c) in the presence of a recombinant ß-galactosidase with the amino acid sequence of an E.C. group 3.2 glycosidase obtained from a yeast, in crude, partially isolated or isolated form, to form said lactosamine containing compound with ß1-4 linkage.